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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/582,903	08/11/2000	KENJI KATO	S004-4034PCT	3167

7590 05/09/2006

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EXAMINER

DINH, TAN X

ART UNIT PAPER NUMBER

2627

DATE MAILED: 05/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/582,903

Applicant(s)

KATO ET AL.

Examiner

TAN X. DINH

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-119 is/are pending in the application.
- 4a) Of the above claim(s) 15-100, 102 and 105-119 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14, 101, 103 and 104 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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1) Applicant's election of Group A ( claims 1-14,101,103 and 104 ) in the reply filed on 2/27/2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 15-100,102,105-119 are withdrawn from further consideration.

2) This application is a 371 of PCT/JP99/06150, filed on 11/04/1999.

3) Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d) or (f). The certified copy of the priority documents have been received in this National Stage Application from the International Bureau ( PCT Rule 17.2(a) ).

The foreign document identifies as:

JAPAN 10/317,671, filed on 11/09/1998.

JAPAN 10/331,694, filed on 11/20/1998.

JAPAN 11/008082, filed on 1/14/1999.

JAPAN 11/210,973, filed on 7/26/1999.

4) The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested:

NEAR-FIELD OPTICAL HEAD HAVING INVERTED CONICAL FOR GUIDING  
LIGHT BEAM.

5) The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “ one fine aperture comprises a plurality of fine apertures and the mirror guide light generated from at least one light source to plurality of fine apertures ” (claim 10) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application.

Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet

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submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

6) Claim 10 recites the limitation "one fine aperture comprises a plurality of fine apertures and the mirror guide light generated from at least one light source to plurality of fine apertures". There is insufficient antecedent basis for this limitation in the claim.

7) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

8) b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9) Claims 1,11-14,101,103 and 104 are rejected under 35 U.S.C. 102(b) as being anticipated by BREZOCZKY et al ( European Patent Application, EPA 0-549-236 A2 ).

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BREZOCZKY et al discloses a near-field optical head as claimed in claim 1, comprising:

a planar substrate having a first surface, a second surface disposed opposite to the first surface and an inverted conical or pyramidal hole extending through the first and second surfaces and having at least one fine aperture formed at an apex thereof and disposed in the first surface ( Fig.3, first surface 41, second surface 31, inverted conical with fine aperture 37; see also figures 5 and 7 for different lay out of the optical head );

an optical waveguide disposed on the second surface of the planar substrate for propagating light ( Fig.4, slider 51 and figure 5 in details of slider 51, aperture 76 for guiding laser beam 46 ); and

a light reflection film disposed in the optical waveguide for reflecting in the direction of the fine aperture light propagated through the optical waveguide ( Fig.5, mirror 61 ).

Method claim(s) *11-14,101,103 and 104* are drawn to the method of making the corresponding near-field optical head claimed in claim 1, therefore, method claims are rejected for the same reasons of anticipation (obviousness) as used above.

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10) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11) This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12) Claims 2-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over BREZOCZKY et al ( European Patent Application, EPA 0-549-236 A2 ).

BREZOCZKY et al discloses all the subject matter as claimed in claim 2, except to specifically show that the waveguide extends into the inverted conical or pyramidal hole. It would have been

obvious to someone within the level of skill in the art at the time of the invention was made to extend the waveguide into inverted conical of BREZOCZKY et al as claimed. The rationale is as follows:

The waveguide for guiding the light beam, such as, optical fiber, could be made in any desirable sizes, shapes, angles, etc., and formed at any suitable locations on the optical head. Thus, to make a waveguide extends into the inverted conical or pyramidal hole of BREZOCZKY et al's optical head as claimed is deem obvious to someone within the level of skill in the art.

As to claims 3 and 4, the feature of using different degree of slant surfaces in inverted conical of near-field optical head is old and widely used in the optical recording art ( See ITO et al, US 6,304,527, figures 6B and 6C ).

As to claims 5-7, since the inverted conical with different degree of slant surfaces is old and widely used as indicated above, one with ordinary skill in the art at the time of the invention was made would have been motivated to make an inverted conical with slant surfaces at any desirable angles ( greater than 50 degrees or less than 50 degrees ) or curved as claimed.

As to claim 8, BREZOCZKY et al shows the mirror focuses light to fine aperture ( Fig.5, mirror 61 ).



As to claim 9, the core and clad are inherent in every optical wave guide.

As to claim 10, it would have been obvious to modify the single near-field optical head of BREZOCZKY et al by having a multiple apertures as claimed since to make a plural elements from one element are generally recognized to be within the level of skill in the art.

13) The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

( see form PTO-892 attached herein ).

Applicant is reminded that in amending in response to a rejection of claims ( if the rejection involves with any applicable arts ) the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objection made. Applicant *must also show how the amendments avoid such references and objections*. See 37 CFR § 1.111(c).


14) Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAN Xuan DINH whose telephone number is (571) 727-7586. The examiner can normally be reached on MONDAY to FRIDAY from 8:00AM to 5:30PM.

The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system.

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Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**TAN DINH**  
**PRIMARY EXAMINER**  
May 5, 2006